

PETROVA, A. F.

"Q Fever in Gur'yevskaya Oblast," by A. F. Petrova, chief
therapist of the Gur'yevskaya Oblast Health Department,
Zdravookhraneniye Kazakhstana, Vol 16, No 11, 1956, pp 27-
30

This article reports cases of an acute febrile disease of unknown etiology which occurred in Gur'yevskaya Oblast, Kazakh SSR, from April to November 1954 and which was serologically diagnosed as Q fever in 1955. Blood from patients who had suffered from the disease was examined in the laboratory of the Clinic of Infectious Diseases (director of the Chair of Kazakh Medical Sciences, Prof Ye. N. Bartoshevich) in Alma-Ata. The article gives results of serological investigations. It notes that serum of two patients reacted positively with antigens of both Q fever and typhus. The article describes clinical phenomena observed, and describes in detail one history of a very severe case. This case was treated symptomatically and it is noted that antibiotics, particularly levomycetin, produce good results.

The author concludes that the epidemiology of Q fever in Gur'yev has not been studied and that a possible epidemic focus of the disease may exist in this oblast.

1. PETROVA, A. F.
2. USSR (600)
4. Poultry Breeding.
7. Effect of the hatching dates of chicks on the productivity of breeding hens.
Ptitsevodstvo no. 5, 1952.
9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

30998. PETROVA, A. FE.

O diagnosticheski kh oshib kakh pri pishchevykh toksikoinfekttsiyakh. V s :
Voprosy ostroy vnutrenney kliniki. M., 1949, s. 189-214.

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PETROVA, A.G.

Some clinical and pathophysiological characteristics of the
simple form of schizophrenia. Zhur. nevr. i psikh. 64 no.1:
80-84 '64. (MIRA 17:5)

1. Kafedra psikhatrii (zaveduyushchiy -- prof. N.P. Tatarenko)
Khar'kovskogo meditsinskogo instituta.

S/046/62/026/007/015/030
B104/B138

AUTHORS: Petrova, A. G., and Aydarov, T. K.

TITLE: Influence of the form of impurity combination on spectral line intensity for high-purity sulfur, selenium, and tellurium

ORIGIN: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 20, no. 7, 1962, 899-902

TEXT: The authors aimed to improve determination of impurities in S, Se, and Te. Standard samples were prepared, containing 10^{-5} - $10^{-2}\%$ Ag, Cu, Al, Ni, Pb, Bi, and Sb as oxides, sulfides, selenides, and tellurides. They were investigated in a-c and d-c arcs with an ИСП-28 (IS-28) spectrograph. Amounts of 40 to 100 mg were introduced into carbon electrodes and analyzed using lines Ag 3280.68, Cu 3247.54, Al 3090.71, Ni 3090.82, Pb 2833.07, Bi 3067.72, and Sb 2528.53 Å. Calibration curves for the impurities show that the form of combination does affect accuracy. Sulfides are recommended in S, sulfides and selenides in Se, and tellurides in Te. Table 1 shows the effect of addition of salts to
Card 1/1

Influence of the form of impurity ...

3,145,62,126,127 015 011
B104/5135

3. The line intensity of impurities in Te is only increased by mixing the sample with coal dust in the ratio 5:1. The increased intensity of the impurity lines is apparently due to variations in the temperature of the arc and in the concentration of impurities in the discharge cloud. Near the cathode, impurities in S show the greatest, and those in Te the least, increase in line intensity. Lead and bismuth intensities increase quite a lot, but those of silver, nickel, copper, and tin very little. Results are very similar for a-c and d-c arcs. Near-the cathode 2.5-5% NaCl addition considerably increases the line intensities of impurities in S and Se. There are 3 figures and 2 tables.

Table 1. Effect of the addition of various salts on the line intensities of impurities in the sulfur spectrum. Legend: Salts from top to bottom: NH₄Cl, NaCl, KCl, CsCl without addition; (1) blackening of analytical lines as referred to the background.

Page 2/1

PETROVA, A.G.; AYDAROV, T.K.

Effect of the compound form of admixtures in high-purity sulfur,
selenium and tellurium on the spectral line intensity. Izv. AN
SSSR. Ser. fiz. 26 no.7:899-902 J1 '62. (MIRA 15:8)
(Sulfur--Spectra) (Selenium--Spectra) (Tellurium--Spectra)

GRISHINA, L.I.; MOROZOV, V.A.; PETROVA, A.G.; NILASHEVICH, M.K.

Tick-borne relapsing fever in Krasnodar region. Med. parazit. i parazit. bol. 27 no.4:402-405 J1-Ag '58. (MIRA 12:2)

1. Iz Krasnodarskoy krayevoy sanitarno-epidemiologicheskoy stantsii i Labinskoy rayonnoy bol'nitsy.

(RELAPSING FEVER, epidemiology,
in Russia (Rus))

BONCH, E.I., nauchnyy sotrudnik; PETROVA, A.I., nauchnyy sotrudnik

Aerosols in controlling rice diseases. Zashch. rast. ot vred. i bol.
8 no.8:26-27 Ag '63. (MIRA 16:10)

1. Vsesoyuznyy institut zashchity rasteniy.

AUTHORS: Il'in, D. I., Petrova, A. I., Shepkasova, N.Yu. SOV/89-7-1-12/26

TITLE: On the Problem of the Migration of Radioactive Bodies From an Open Water Container (K voprosu o migratsii radioaktivnykh veshchestv iz otkrytogo vodoyema)

PERIODICAL: Atomnaya energiya, 1958, Vol. 5, Nr 1, pp. 75-77 (USSR)

ABSTRACT: For the determination of the economic advantages offered by the possibility of removing radioactive refuse at low cost an artificial pond of 3 km length and a total water surface of 6 km² was created. The dams erected were impermeable to water towards the exterior. Radioactive refuse of the following radiochemical composition was emptied into this water on October 15, 1954:

Sr ⁹⁰ +Sr ⁹⁰ +Y ⁹⁰	64%
Ru ¹⁰³ +Ru ¹⁰⁶	16%
Zr ⁹⁵ +Nb ⁹⁵	2%
Cs ¹³⁷	10%
Mixture of rare earths	8%

In the course of the whole investigation, which lasted until the end of 1957, radioactive refuse was emptied five times into this

Card 1/2

On the Problem of the Migration of Radioactive
Bodies From an Open Water Container

SOV/44-5-1-1/1

pond, the total β -activity of which amounted to 60-100 $\mu\text{C/l}$. Control of the motion performed by the radioactive bodies when moving from the container of water into the ground water was carried out by measuring the β -radioactivity of the water in the 12 artificial bore holes. Results obtained showed that strontium, cesium, and the rare earths are well absorbed by the ground on which the container is located and that therefore this method can be employed without difficulty. Therefore the place on which the container is placed must be selected in such a manner that the migrating Ru^{106} reaches sources of drinking water only after the elapse of the tenfold half life of Ru^{106} . There are 2 figures, 2 tables, and 5 references.

SUBMITTED: January 6, 1958

1. Radioactive waste--Disposal

Card 2/2

AUTHORS: Il'in, D. I., Moskalov, Yu. I.,
Petrova, A. I.

SOV/89-5-2.../36

TITLE: On the Accumulation of Radioactive Elements in Some Groups of
Water Organisms (O nakoplenii radioaktivnykh elementov
nekotorymi gruppami vodnykh organizmov)

PERIODICAL: Atomnaya energiya, 1958, Vol. 5, Nr 2, pp. 171-174 (USSR)

ABSTRACT: β -activities were filled into a natural container of water (e.g.
a lake) of 1,8 m depth, so that the water always had an average
activity of from 2 to 4 $\cdot 10^{-8}$ C/l. The average radio-chemical com-
position of the water was:

Na ²⁴	6%	Ru ¹⁰³ + Ru ¹⁰⁶	5%
Cs ¹³⁷	16%	Zr ⁹⁵ + Nb ⁹⁵	8%
Sr ⁸⁹ + Sr ⁹⁰	48%	Sum of fission products of	
P ³²	5%	rare earths	12%

A number of fishes, plankton, etc. lived in this water. After
having lived in radioactive water for one year the organs of the
following 5 different kinds of fish were investigated:

Card 1/2

36 roaches, 15 perch, 4 pikes, and several types of carp etc.

On the Accumulation of Radioactive Elements in
Some Groups of Water Organisms

SOV/89-5-2-11/36

Furthermore, the activities in the plankton and benthos were investigated. It was found that the plankton, benthos, and the fishes selectively concentrate P^{32} , Sr^{89} , Sr^{90} , Cs^{137} and Na^{24} from the water. The concentration of P^{32} in fishes, in the plankton, and in the benthos exceeds the original concentration in water by 3 - 4 orders of magnitude. In Sr^{89} , Sr^{90} and Cs^{137} an increase of up to 2 - 3 orders of magnitude was measured. From 44 to 59% of the main bulk of β -activities in the organs of fish were found in the muscular tissues, and 16 to 24% in the skeleton. - The concentrations of β -activities in the skeleton, in the gills, fins, and scales is from 3 to 5 times as high as in the soft parts of the body. There are 4 tables and 6 references, 6 of which are Soviet.

SUBMITTED: May 10, 1958

Card 2/2

KULIKOV, A.I.; KURLINA, I.P.; POLYAKOV, I.M.; SHIPINOV, N.A.;
GARNOVSKAYA, G.N. [deceased]; FEOFILOV, Ye.Ye.; KOROLEVSKAYA, M.F.;
PETROVA, A.I.

Effect of the composition of shale phenols on the process of
nitration and pesticidal properties of nitro products. Khim.
i tekhn. gor. slan. i prod. ikh perer. no.8:167-174 '60.
(MIRA 15:2)

(Phenols)
(Pesticides)
(Nitration)

NESHCHADIN, A.G., inzh.; KURDYUMOV, V.N., inzh.; Prinimali uchastiye:
YEDEMSKIY, P.M.; FADEYEVA, K.M.; SOKOLOV, A.I.; PETROVA, A.I.;
MIKHAYLOVA, N.M.; SERGEYEVA, Z.P.

Influence of temperature on the extraction of prepressed sunflower
cakes in the DS-70 extractor. Masl.-zhir. prom. 27 no.6:35-38
Je '61. (MIRA 14:6)

1. Voronezhskiy tekhnologicheskii institut, Leningradskoye otdeleniye
(for Neshchadim). 2. Leningradskiy maslozhirovoy kombinat (for
Kurdyumov, Yedemskiy, Fadeyeva, Sokolov, Petrova, Mikhaylova, Sergeyeva).
(Sunflower oil)

IL'IN, D.I.; MOSKALEV, Yu.I.; PETROVA, A.I.

Accumulation of radioisotopes in certain groups of water organisms.
Atom. energ. 5 no.2:171-174 Ag '58. (MIRA 11:8)
(Radioisotopes) (Fishes)

SERGEYEV, I.S., kandidat meditsinskikh nauk; ~~PETROVA, A.I.~~, klinicheskiy
ordinator

Results of combined antibacterial therapy of pulmonary tuberculosis.
Probl.tub. 34 no.6 supplement:9-10 N-D '56. (MLWA 10:2)

1. Iz Moskovskogo gorodskogo nauchno-issledovatel'skogo tuberkuleznogo
instituta (dir. - kandidat meditsinskikh nauk V.F.Chernyshev, zam.
dir. po nauchnoy chasti - prof. V.L.Minis)
(TUBERCULOSIS, PULMONARY, therapy,
drug ther., combined (Rus))

PETROVA, A.I.

Methods of maintaining the vitality of perennial rye. Zemledelie 4
no.8:116-117 Ag '56. (MIRA 10:1)
(Rye)

Dynamic double refraction in solutions of polymers of butadiene and methyl methacrylate. V. N. Tsvetkov and V. A. Fyrtseva. *Zhur. Fiz. Khim.* 23, 366-78 (1949); cf. C.A. 40, 2008; cf. 42, 1011c. (1) Butadiene (B) polymerized with Na was fractionated by pytg. dichloroethane soln. with H₂O and the fractions were dissolved in gasoline. The relative viscosity η , of these solns, was independent of the velocity gradient g for low-mol. fractions and decreased when g increased for high mol. wt. fractions; at $g > 15000$ sec.⁻¹ η was independent of g for all fractions. The dynamo-optical const. $X = \Delta n/g \cos \alpha$ was characteristic for every fraction and proportional to its (viscometric) mol. wt. M ; Δn is birefringence caused by g (detd. in 0.1-0.3 mm. thick layer between a stationary and a rotating cylinder). $C \cos \alpha$, α is the viscosity of the solvent. For the extinction angle, the equation found is $\tan 2\alpha - \tan 2\alpha_0 = 6kT/\rho\eta\omega W$; α_0 is an empirical const. (although it should be zero according to theory), and W is the friction coeff. for rotation. W increases with M less rapidly than M^2 ; this constitutes a difference between linear polymers, cf. C.A. 40, 788, and branched polymers such as poly- β . The X in solvents whose n is near 1.47 (CHCl₃, dichloroethane, and CCl₄) is less than in gasoline, H₂O, C₆H₆, PhCl, and tetralin (whose n is smaller or greater), showing that the flow birefringence is due mainly to the shape of the polymer mol. (2) Copolymers of I and styrene have (in tetralin and dichloroethane) a pos. X and a pos. photorlastic effect as long as the amt. of I is less than about 33%; the sign of both is pos. in 1- α -hex polymers. Apparently, photorlastic effect, like shape effect, is a part of the Maxwell effect. (3) Poly(methyl methacrylate) (M), $M = 600,000$, has a X which is small for its M , η , in C₆H₆ and CHCl₃ is independent of g at $g > 10000$ and, in this range, little depends on the solvent. The η , X , and α of the solns. are lowered when large g ($> 35,000$) is applied for several min., thus indicating decrease in the particle size. In C₆H₆,

$\Delta n/g = \text{const.}$ C up to $C = 0.5\%$, and $\lambda = 30^\circ \text{C}/\text{cm}$ in all solvents (COMe, AcOH, CHCl_3 , C_6H_6 , C_6H_5 , PbCl_2 , and CHBr_3). λ has a min. in C_6H_6 whose n is near that of II (I 49), showing the preponderance of the birefringence due to shape. The mol. of II seems to be relatively right.

Tennessee State U.

CA PETROVA, A. I.

Investigation of fractionated polybutadienes by a dynamo-optical method. V. N. Tavetkov, A. I. Petrova, and I. Ya. Poddubnyi (Leningrad State Univ., Leningrad). *Zhur. Fiz. Khim.* 24, 994-1003 (1950).—Solns. of various fractions of polybutadienes obtained at various temps. of polymerization were studied by dynamo-optical double refraction. The double refraction was linearly related to the rate gradient. Conclusions are drawn concerning the form of the macromol. in various solvents and the effect of the polymerization temp. on the configuration of the mol.
Paul W. Horvath

NUDOL'SKAYA, O.Ye.; SHAKHMONSTER, S.Ya.; PETROVA, A.K.; ABRAMOVA, M.M.

Immediate and remote results of radiotherapy of uterine cancer. *akush. gina.* no. 5: 71-76 Sept-Oct 1953. (CML 25:4)

1. Professor for Nudol'skaya. 2. Of the Institute of Obstetrics and Gynecology (Director -- L. G. Stepanov), Ministry of Public Health USSR.

PETROVA, AN M.

Reaction of benzene with esters in the presence of various catalysts. B. V. Troshov and A. M. Petrova (S. M. Kirov Polytech. Inst., Tomsk). *Zhur. Obshch. Khim.* 23, 1014-22 (1953); cf. *C.A.* 25, 3973. — The reaction of 2 moles C_6H_6 with various esters in the presence of catalysts can be summarized as follows (the mixts. were heated 6 hrs. on a water bath; a few vigorous reactions required initial cooling): 0.5 mole $EtONO_2$ and 0.25 mole $AlCl_3$ gave 81% $PhNO_2$, also formed in low yield with 0.25 mole $ZnCl_2$; 0.5 mole $EtONO_2$ and 0.25 mole $SbCl_5$ gave 30.6% $PhNO_2$, while 0.25 mole $SbCl_5$ gave 40.2% $PhNO_2$; 0.220 mole $EtONO_2$ and 0.144 mole $SbCl_5$ gave 83.0% $PhNO_2$; 0.5 mole Et_2SO_4 and 0.25 mole $AlCl_3$ gave 17% $EtPh$ and 10.9% $Et_2C_6H_5$; no reaction took place with Et_2SO_4 and $FeCl_3$, $ZnCl_2$, $SbCl_5$, or $BiCl_3$ catalysts; 0.25 mole Et_3PO_4 and 0.25 mole $AlCl_3$ gave 23% $EtPh$; 0.5 mole $(BuO)_3B$ and 0.125 mole $AlCl_3$ gave some organo-B compd.; $Si(OMe)_2$ and $SbCl_5$ did not react, but 0.125 mole $Si(OMe)_2$ and 0.125 mole $AlCl_3$ gave 12% $EtPh$; 0.125 mole $EtOAc$ did not react with $AlCl_3$ or $SbCl_5$; $ZnCl_2$ was unreactive with $AcOBu$ and $AlCl_3$ was unreactive with $AcOAm$; 0.125 mole $AcOCH_2Ph$ and 0.125 mole $AlCl_3$ gave 70.7% Ph_2CH_2 , while 70% was obtained in a repetition of the expt.; with this ester $CuCl_2$, $ZnCl_2$, $ZnBr_2$ were unreactive, however, an equimolar amt. of $SbCl_5$ gave 66.6% Ph_2CH_2 , while $SbCl_5$ gave 36%; $BiCl_3$ gave 14%; no reaction took place with $AcOCH_2Ph$ and AlI_3 , or with $AcOPh$ and $AlCl_3$ or $SbCl_5$; $1/12$ mole triacetin and 0.2 mole $AlCl_3$ gave 28% $AcPh$, while 20% was obtained with 0.2 mole $SbCl_5$; 0.125 mole $ClCH_2CO_2Et$ and 0.125 mole $AlCl_3$ gave 54.2% $EtPh$; 0.5 mole $ClCH_2CO_2Me$ and 0.125 mole $AlCl_3$ did not react; $1/12$ mole

— chain Org. Chem.

each of Me_2CBrCO_2Et and $AlCl_3$ gave 10.2% $EtPh$, while 8% yield was obtained from 0.25 mole $NCCH_2CO_2Et$ and 0.125 mole $AlCl_3$; no reaction took place with $CO(OMe)_2$ and $AlCl_3$, but 0.125 mole CO_2Et and 0.125 m. $AlCl_3$ gave 15.4% $EtPh$, and 12.5% $EtPh$ was formed from 0.125 mole $CH_3(CO_2Et)_2$ and 0.125 mole $AlCl_3$; 0.125 mole $PhSO_2Me$ and 0.25 mole $AlCl_3$ gave 32% $MePh$; no reaction took place with Et_2O and $AlCl_3$ or $SbCl_5$; 0.125 mole $(PhCH_2)_2O$ gave 91.5% Ph_2CH_2 with 0.125 mole $AlCl_3$, while 70.0% was obtained with $SbCl_5$ and 40.5% with $SbCl_5$. Generally, esters which are expected to form complexes at the ester O gave alkylbenzenes. Esters of boric acid can react in 2 ways, since the complex with the catalyst can donate an alkyl or add the B atom to the Ph ring. If $EtONO_2$ is added to C_6H_6 , addn. of $SbCl_5$ leads only to nitration.

G. M. Kosolupoff

11-9-54

md

PETROVA, A. M.

U S S R .

✓ Reaction of benzene with esters in the presence of various catalysts. B. V. Tronov and A. M. Petrova. J. Gen. Chem. U.S.S.R. 23, 1067-9 (1952) (Engl. translation).—See C.A. 48, 8184d; H. L. H.

PETROVA, A. M.

"Comparing the Activity of Various Catalysts in the Gustavson-Friedle-Crafts Reaction." Cand Chem Sci, Tomsk Polytechnic Inst, Tomsk, 1954. (RZhKhim, No 21, Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No.521, 2 Jun 55

PETROVA, A. M.

USSR/Chemistry - Reaction processes

Card 1/1 : Pub. 151 - 18/37

Authors : Petrova, A. M.

Title : Utilization of antimony pentachloride in the Gustavson-Friedel-Crafts reaction

Periodical : Zhur. ob. khim. 24/3, 491-493, Mar 1954

Abstract : The catalytic effect of $SbCl_5$ during reactions of benzene with some hydrocarbon halides, halides of carboxylic acid and ethylnitrate, was compared with the effect of the classical $AlCl_3$ and $SnCl_4$ catalysts. During the reaction with hydrocarbon halides the $SbCl_5$ catalyst was found much less effective than the $AlCl_3$ catalyst. $SbCl_5$ was found perfectly satisfactory in reactions with acid halides and ethylnitrate; the formation of a labile $SbCl_5$ -ethylnitrate compound was observed in the latter case. It was established that this compound, which is an intermediate reaction product, is also capable of accelerating the reaction between the benzene and a new batch of ethylnitrate. Three references: 2-USSR and 1-German (1901-1953). Table.

Institution : The S. M. Kirov. Order of the Red Banner Polytechnicum, Tomsk

Submitted : September 25, 1953

PETROVA, A.M.

Variability of barley under the effect of trace elements and growth
promoting substances. Sber. trud. asp. i mol. nauch. sovr. /IF
no.5:211-215 '64. (MIR, 18:3)

PETROVA, A.N.

[Booklet on safety engineering and industrial hygiene for
shaper-finishers of ceramic, porcelain and faience articles]
Pamiatka po tekhnike bezopasnosti i promyshlennoi sanitarii
dlia formovshchika farforovykh, faiansovykh i keramicheskikh
izdelii. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i
stroit. materialam, 1961. 8 p. (MIRA 15:3)
(Industrial safety) (Industrial hygiene) (Ceramics)

SAMOKHVALOV, G.K.; PETROVA, A.N.

Anatomical changes in solanaceous plants produced by "absorbing"
vegetative hybridization. Izv.zap.KHGU 46:97-107 '53. (MIRA 11:11)

1. Kafedra fiziologii rasteniy i mikrobiologii Khar'kovskogo gosudar-
stvennogo universiteta.
(Grafting) (Nightshade) (Botany--Anatomy)

PETROVA, A.N., inzh.

Creative activity of textile workers in Ivanovo Province. Izobr.v SSSR
2 no.2:34-35 F '57. (MIRA 12:3)

(Ivanovo Province--Textile industry)

PETROVA, A.N.; BEZIMOV, S.V.

Inventors and efficiency promoters at Ivanovo textile mills. Tekst.
prom. 18 no.5:62-65 My '58. (MIRA 11:5)
(Ivanovo Province--Textile industry)

BUGORKOVA, A.A.; PETROVA, A.N.; NOVIKOVA, Ye.N.

Detection of chlorine traces in benzyl and phenylethyl
alcohols. Trudy VNIISNDV no.4:154-156 '58. (MIRA 12:5)
(Chlorine--Analysis) (Alcohols)

BULGARIA / Chemical Technology. Chemical Products and Their Applications. Food Industry. H

Abs Jour: Ref Zhur-Khimiya, 1959, No 4, 13558.

Author : Banov, P.; Petrova, An.; Georgiyev, G.
Inst : Not given.
Title : Low Methylated Pectins.

Orig Pub: Khimiya i Industriya (Bolg.), 1958, 30, No 2, 51-53.

Abstract: Characteristics of low methylated pectins (LMP) are given. The most typical L.P have a 15-30% degree of esterification and a 2.5-4.5% content of methoxyl groups. A description of LMP is cited which is prepared by means of acid, alkaline and fermentative hydrolysis. A process of gelatinous LMP occurs in the presence of polyvalent cations (Ca salts) with a low concentration of sugar, or without sugar, and with a wide pH interval. The basic

Card 1/2

PETROVA, A.N.; FILIPPOVA, R.D.

· Characteristics of amylose isomerase and ribonucleic acid contained in it.
Biokhimiia 30 no.2:438-442 Mr-Apr '65. (MIRA 18:7)

1. Institut biokhimiia imeni Bakha A^v SSSR, Moskva.

The influence of various hormonal factors on the iodine content of the thyroid and of the blood of rabbits A. N. Petrova *Problemy Endokrinol.* 2, No. 1, 3-6 (1957). *Chem. Zvesti* 1958, 1, 420 Under the influence of fulbulin the I content of the thyroid and of the blood decreases sharply as a result of repression of the thyroid secretion. Insulin increases the I content of the thyroid gland and reduces that of the blood. As a result of stimulation of the thyroid secretion, adrenalin produces a sharp increase in the I of the thyroid and a definite increase in the I level of the blood. M. G. Moore

24

110

A method for the determination of iodine in blood. A. N. Petrova. *Problemy Endokrinol.* (U. S. S. R.) 3, No 3-4, 84-8(1938).—Modifications are described of details in manipulation in previously known methods, in which

org. matter is destroyed in an acid medium in a closed app., and the reagents used are concd. H_2SO_4 , HNO_3 , satd. KOH soln., alc., $N KMnO_4$ soln., H_2PO_4 , 0.5 N $NaNO_2$ soln., 40% soln. of urea and 0.1 N soln. of hyposulfite. Good results were obtained in detg. I in blood. The method can also be used for the detn. of I in various organs, but the burning of the organs contg. fat requires more time and a longer addnl. burning of the residue.

W. R. Herrn

11H

PROCESSED AND PREPARED INDEX

The effect of the vegetative nervous system on the function of the thyroid gland. The effect of atropine on the content of iodine in the blood and the thyroid gland and on the proteolysis of the liver in rabbits and dogs. A. N. Petrova, *Problemy Endokrinol.* (U. S. S. R.) 9, No. 1: 3-10 (1940). - Repeated administration of atropine to rabbits in doses of 1.5 mg. per kg. caused no changes in the content of I in blood and in the thyroid gland, or in the morphology of the latter; proteolysis of the liver increased. Repeated administration of atropine to rabbits in doses of 3 mg. per kg. caused a slight decrease of I in the thyroid gland and a growth of the connective tissue; proteolysis of the liver increased and the content of I in blood remained unchanged. Continued administration of atropine in still greater amts. (6 and 7 mg. per kg.) caused a sharp decrease of the content of I in the thyroid gland and a greater growth of the connective tissue than in the previous expts.; proteolysis of the liver increased and the I level in blood remained unchanged. Under the influence of repeated administration of atropine to dogs (1 mg. twice daily) the content of I in blood, the content of I in the thyroid gland and the morphological picture of the thyroid gland remained unchanged; proteolysis of the liver increased. A single administration of atropine to dogs (2 mg.) caused an increased content of I in blood, a decrease of the I content in the thyroid gland and an increase of the proteolysis of liver. Proteolysis of liver increases under the influence of atropine regardless of the state of activity of the thyroid gland. Thirty-two references. W. R. Heun

ASB 51A METALLURGICAL LITERATURE CLASSIFICATION

11-H

PROCESSES AND PROPERTIES OF THE LIVER

Increase of the resistance of mice to phosphorus poisoning by the products of enzymic hydrolysis of the liver. A. Petrova (State Inst. Exptl. Endocrinol., Moscow). *Bull. Physiol. Biol. Med. U.S.S.R.* 11, 285-7 (1941). - In mouse expts. enzymic hydrolyzates of the liver were injected with oil suspensions of yellow P, at 0.1 to 0.15 mg. level daily. The hydrolyzates were prepd by pepsin hydrolysis of the tissue and were preserved by trisecol before injections. Such injections served to reduce the mortality on P injections. A degree of preservation of liver glycogen was also observed, which was not the case in animals which received only P injections. A similar hydrolyzate of the kidney had no protective action. Similar enzymic hydrolyzate of cottage cheese also had some protective action, although less than the liver prepn. G. M. Kosolapoff.

ASB 51.4 DETALLOPOGICAL LITERATURE CLASSIFICATION

PETROVA, A.N.

"Anti-thyreoidic Substances" (p.65) by A.N. Petrova (Moscow)

SO: Advances in Modern Biology (Uspekhi Sovremennoi Biologii) Vol. XV, 1942, No. 1

CA

PROCESSING AND PREPARATION INDEX

Muscle amylase. A. N. Pelton (Acad. Sci. Moscow). *Biochemistry* 11, 119-31 (1966). — The carbohydrates in the muscle tissue of rabbits and rats are split off both by way of phosphorolysis and by hydrolysis. The muscle amylase is activated by chlorides, and judging by its mode of action belongs to the alpha type. More amylase is found in autolyzed muscle. Exts. prepd by the Mevethol method (C.A. 20, 1635) contain small units of amylase. H. Prestley

11 A

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

GROUP 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

1ST AND 2ND ORDERS										PROCESSES AND PROPERTIES INDEX										3RD AND 4TH ORDERS									
CA Hydrolytic cleavage of carbohydrates in muscles A N. Petrova (Acad. Sci., Moscow) <i>Doklady</i> 12, 200-20(1947); cf. C.A. 40, 6521* --A maltose-splitting enzyme, maltase, is found in the minced muscle and in cats. from skeletal muscle of adult rabbits. The optimum pH is 5.6-6.8. The accumulation of glucose hinders the maltase action. Muscle maltase is stable in acid solution. When treated with alk., the cats completely lose the maltase activity. This property is used to prep. maltase- free amylase. Dextrin, maltose, and glucose are the products formed from starch and glycogen by the action of muscle α-amylase. H. Priestley																													
ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION																													

CA

An enzyme of muscle which is able to split the 1-6 bond in polyaccharides. A. N. Pottova, *Doklady Akad. Nauk SSSR* 58, 431-3 (1947); *Chem. Zvesti* (Russian) 1948, 11, 741. A dialyzed extract of muscle from the muscle was found to contain an enzyme which splits the 1-6 glucoside bond. The action of the enzyme on glycogen yielded glucose, maltose, and only slight amounts of reducing dextrans. Acclimation of the extract produced a preparation which contained an enzyme possessing amylolytic properties. This enzyme was similar to the Q enzyme obtained from potatoes. Starch was broken down with the enzyme. The starch-iodine color changing to a stable red violet. The action of the enzyme differs in this respect from that of amylase, since the latter causes the starch-iodine color to disappear rapidly. The enzyme was inactivated by heating or by treatment with alkali. M. L. Moore.

CA

Chemical properties and method of separation of amylose isomerase from muscle. A. N. Petrova, *Biochem. Biophys. Res. Commun.* 14, 155-162 (1949); cf. C.A. 42, 7807a. Amylose isomerase (I), the enzyme which splits α -glucoside linkages in the 1-6 position, is either identical with the muscle protein globulin X, or if not identical, then the enzyme activity has to date not been sepd. from the protein. The 3 muscle proteins, myosin, myogen, globulin X are thus associated with the enzymes adenosinetriphosphatase, aldolase, and I, resp. A more active form of I is obtained, not by dialysis as previously described, by dial. to 0.01 M NaCl, and adjusting with acid to a pH of 5.4-5.5, the isoelectric point of globulin X. Glycogen can be transformed completely into the Cori ester by a mixt. of phosphorylase and I. Muscle phosphorylase alone cannot do this, as claimed by Swanson and Cori (C.A. 42, 3441a). Apparently the latter used a muscle phosphorylase prepn. contaminated with α -amylase and I. H. Priestley

11/1

CA

Preparation of highly purified muscle phosphorylase

V. N. Petrova, E. L. Rozanov, L. B. Lobachev, and
L. N. Spitsina. *Doklady Akad. Nauk SSSR* 66,
1141-3 (1949). Cold rabbit muscle is minced and ext.
by an equal vol. of cold H_2O for 10 min. twice at 1:5.
The exts. are filtered through paper and the clear soln
mixed with 0.7 vol. satd. $(NH_4)_2SO_4$ at pH 9.3-9.5 (prepd
by passage of NH_3 into soln). The crystn. suspension
is let stand overnight at -4° , centrifuged, washed 0.7
times by buffer soln. (0.47 KCl, 0.1 Na_2CO_3 , 0.30%
 $NaHCO_3$), dissolved in $(NH_4)_2SO_4$ (0.7 satd.) soln. of 1:1
vol. of original ext. at pH 6.2-6.4. The amorphous ppt.
is centrifuged off and is washed 1-2 times by the same
soln. and is suspended in 1% wt. (calcd. on muscle used)
of 1% glycerophosphate contg. 0.02 M cysteine-HCl.
The solid is removed after 1 hr. and the clear neutral soln
is ready for enzymic study. The soln. is free of amylase,
amylase isomerase, maltase and PR-enzyme. The prod-
uct splits glycogen only up to the sites of branching.
With glucose 1-phosphate it yields in amylase-type poly-
saccharide giving blue I test. G. M. Kosolapoff

ASD SLA METALLOGRAPHIC LITERATURE CLASSIFICATION

PETROVA, A. N.

Dor Biolog Sci

Dissertation: "Studying the Process of Enzymatic Decomposition and Synthesis of Glycogen in Muscles." 28/12/50

Inst of Biochemistry imeni A. N. Bakh, Acad Sci USSR

SO Vecheryaya Moskva
Sum 71

CA

1-

The amylolysis and phosphorolysis of muscle glycogen
A. N. Petrova and M. B. Lebedeva (Acad. Sci., Moscow;
Biokhimiya 15, 277-82 (1950); cf. *C.A.* 42, 7877a, 43,
7986). — The decomn. of carbohydrates in muscle proceeds
not only by way of phosphorolysis, but also by hydrolysis.
Both amylase and phosphorylase are found in muscle
prepd. in the cold, or by autolysis for 1-2 days at room
temp. As is known, glycogen phosphorolysis proceeds
in the presence of phosphates and of adenylic acid; amylo-
lysis, in the presence of chlorides. Phosphorolysis *in*
vitro is unaffected by the presence of chlorides, and amyl-
ysis by the presence of phosphates and adenylic acid.
Glycogen is decompd. *in vitro* much more rapidly by the
combined action of phosphorylase and amylase than by
the sep. action of these enzymes.
H. Priestley

(BA - A III Ia 53:33)

Lab. Phys. Chem., AS USSR, + Inst. Biol. + Med. Chem., AMS USSR

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c. 4.

Action of highly purified muscle phosphorylase. A. N. Petruya and K. I. Rosenfeld (Lab. Physiol. Chem., Acad. Sci., Moscow). *Biochimica* 15, 399 (1950), cf. C. A. 43, 5438i, 7084i. Repeated attempts to obtain crystalline phosphorylase by Cori's method (C. A. 33, 7549) failed. On following the exact directions of the Cori method, phosphorylase a was usually obtained, but in the amorphous condition, mixed with amylase and amylase isomerase. A muscle phosphorylase, free from traces of other carbohydrases and the P_K-enzyme was prepd. as follows: The clear aq. ext. of rabbit muscle (2 expts. of muscle for 10 min. at 1-6° with an equal vol. of distil. water) was treated with 0.7 vol. of a satd. (NH₄)₂SO₄ soln. of pH 0.3-0.5 (adjusted with gaseous NH₃). After 15-30 min., a cryst. ppt. containing phosphorylase formed. This was allowed to stand overnight at 4-6°. The ppt. was sepd. by centrifugation, and washed 6-7 times with a cold buffer soln. contg. 0.47% KCl, 0.15% Na₂CO₃, and 0.38% NaHCO₃. The cryst. ppt. was dissolved in 0.33 vol. (based on original aq. muscle ext.) (NH₄)₂SO₄ soln. of 0.1% satd. at a pH of 0.2-0.4 with NH₄OH. The enzyme, along with some protein impurities, then pptd. The ppt. was sepd. by centrifugation and treated with a soln. of 1% glycerophosphate mixed with 0.2 M cysteine-HCl. The vol. was 2% of the initial muscle. The phosphorylase dissolved. The insol. part was discarded. The completely colorless clear ext. of neutral reaction, was used for the enzyme tests. The carbohydrate synthesized by this phosphorylase *in vitro* had the properties of an amylose. It gave a blue-green coloration with I, and was completely hydrolyzed by β -amylase. When a mixt. of phosphorylase and amylase isomerase was employed, a polysaccharide of the glycogen type was obtained, which gave a yellow-brown coloration with I, and 40% of it was decompd. by β -amylase. The purified muscle phosphorylase hydrolyzed glycogen to the dextrin stage and no further. Expts. with the highly purified phosphorylase confirmed the increased rate of phosphorylase (C. A. 43, 2252b) of glycogen in the presence of myosin (C. A. 43, 2252b). H. Priestley

CA

11 A

New data on the study of glycogen and its biological transformations B. N. Stepanenko, A. N. Petrova, and E. I.

Rosenfeld. *Izvest. Akad. Nauk S.S.S.R. Ser. Biol.* 1951, No. 1, 80-106; cf. *C.A.* 43, 7080b; 9103b. — The results of the earlier studies on glycogen are summarized as follows. The color produced by I-glycogen system and the intensity of color depends exclusively on the length of glycogen side chains. Enzymic reduction of chain length causes the extinction and abs. max. to decline (the latter to shorter waves). In the course of reactions of glycogen with enzyme systems protein mols. play a role affecting the course of glycogen degradation. Thus myosine accelerates phospholysis of glycogen but does not affect the reaction of alkali-treated glycogen. While glucose is the final product of paths exist, a one-step process by the action of α -amylase or a 2-step process in which α -amylase first yields maltose which is cleaved by maltase. The new enzyme, amylase isomerase, having the properties of a globulin, has been isolated from muscle tissue. It permits deeper than usual cleavage of glycogen residues by β -amylase so that by successive additions of the enzyme it is possible to cleave glycogen to fermentable sugars. The isomerase is remarkably stable being only partly inactivated by 100° in 0.5 hr. Expts. with D₂O tracing in frog glycogen *in vivo* showed that during liver-glycogen decline not only its breakdown but a simultaneous biosynthesis of the substance occurs; this event cannot be detected except by tracer methods. The mechanism of glycogen cleavage is discussed. G. M. K.

PETROVA, Antonina Nikolayevna; TABUNINA, M.A., red.; TARKHOVA, K.Ye.,
tekh. red.

[Safety manual for pressors of ceramic and pottery-
porcelain products] Pamiatka po tekhnike bezopasnosti
dlia pressovshchika keramicheskikh i farforo-faiansovykh
izdelii. Moskva, Gosstroizdat, 1963. 17 p.
(MIRA 17:2)

PETROVA, A. N.

Sep/Oct 51

USSR/Biology (Agriculture) - Starch From Potatoes

"Starch and Its Formation in Potatoes," B. N. Stepanenko, Ye. L. Rosenfel'd, A. N. Petrova, A. V. Kotel'nikova, Moscow

"Uspekhi Sovrem Biol" Vol XXXII, No 5, pp 183-231

Potatoes are a very important crop in the USSR; 7.7 million hectares were planted under potatoes before World War II and the acreage was 5% higher in 1950. Yield from 1 hectare corresponds to 1,600 liters of alc, which may serve as raw material for synthetic rubber. While yields were raised by 21% during the past 10 yrs, the starch content is often inadequate. A number of interesting investigations on starch formation in potatoes was carried out at the Inst of Biochem imeni Bakh, Acad Sci USSR. This work and other data will help in raising the starch content. Reviews in detail the present status of the problem of phytochem starch formation.

198T1

CA

111

Cofactor that hastens the glycogen breakdown in the muscle. A. N. Petrova, *Doklady Akad. Nauk SSSR* 78, 551-2 (1951). Enzymic cleavage of glycogen is affected by a coenzyme-like factor. If an undialyzed muscle ext. is used, the rate curve shows a rapid rise of reducing substances, followed by a sharp break, a dialyzed ext. gives a moderately steep curve with a very small break. This is caused by the difference in phosphorolytic activity, influenced by the above factor present in undialyzed exts. The factor freed of enzymes (procedure not specified) clearly endows the dialyzed ext. with phosphorolytic activity, especially well shown in exts. with β -dextran which is greatly accelerated by this cofactor, in comparison with action of phosphorylase alone, or with amylase isomerase. Since glycogen cleavage in alloxan diabetes is retarded, it is possible that weakening of the cofactor activity is responsible.

G. M. Kosolapoff

Lab. Physiol. Chem., A.S. USSR

PETROVA, A.N.; ROZENFEL'D, Ye.I.

Phosphorylase in muscles and its properties. Izv. Akad. nauk SSSR, Ser.
biol. no.4:133-138 July-Aug 1952. (CML 23:2)

1. Laboratory of Physiological Chemistry, Academy of Sciences USSR.

PETROVA, A.N.

Certain properties of isomerase of amylose. Biokhimiia, Moskva 17
no.2:129-133 Mar-Apr 1952. (CML 24:5)

1. Laboratory of Physiological Chemistry of the Academy of Sciences
USSR, Moscow.

PETROVA, A.N.

RT-129 (Study of the processes of enzymatic glycogen decomposition in muscles of rabbits with alloxan diabetes). Izuchenie protsessov enzimaticheskogo raspada glikogena v mysh-tsakh pri alloksanovom diabete u krolikov.

Biokhimiia, 17: 469-475, July-August, 1952.

CA

112

Enzymic synthesis and cleavage of starch in potato tubers with different soil fertilization A. N. Petrova and T. I. Bobolina. *Doklady Akad. Nauk S.S.S.R.* 84:1235-7 (1952).
Differences in hydrolytic and synthetic actions of potato exs. derived from plants grown with or without fertilizer are shown only in young specimens. In ripe tubers the differences are slight. Young potato tubers grown with fertilizer show a greater synthetic activity than those grown without fertilizer. The difference is particularly apparent in dialyzed exs. (results shown only graphically). The hydrolytic activity of the exs., judged by accumulation of reducing substances in incubation mixt. with starch, was studied with nondialyzed specimens only. The young tubers grown with fertilizer show much weaker hydrolytic action, than specimens grown without fertilizer.
G. M. Kosolapoff

[illegible][illegible]

PETROVA, A.N.

Mechanism of action of the co-factor accelerating decomposition of
glycogen in muscles. Doklady Akad. nauk SSSR 86 no. 1:133-136
1 Sept 1952. (GLML 23:3)

1. Presented by Academician A. I. Oparin 24 June 1952. 2. Laboratory
of Physiological Chemistry, Academy of Sciences USSR.

PETROVA, A.N.; BOLOTINA, T.T.; KOBZEVA, A.A.

Investigation of the processes of synthesis and hydolysis of starch
in potato tubers at various periods of vegetation. Biokhimiya 18,
47-50 '53. (MLRA 6:1)
(CA 47 no.15:7606 '53)

1. Lab. Physiol. Chem., Acad. Sci. U.S.S.R., Moscow.

BOLOTINA, T.T.; PETROVA, A.N.

Phosphoglucumtase of potato tubers. Doklady Akad. Nauk S.S.S.R. 88, 1927-9
'53. (MLRA 6:2)
(CA 47 no.21:11359 '53)

P.TROVA. / . .

PETROVA, A.N.

(U)
The processes of enzymic synthesis and splitting of starch in potato tubers at different temperatures. A. N. Petrova, T. T. Molotina, and A. A. Kobzeva (Lab. Physiol. Chem., Acad. Sci. U.S.S.R., Moscow). *Biokhimiya* 19, 64-7 (1954); cf. *C.A.* 47, 7600f. —Potato tubers, variety Lorkh, at different temps. have a different content of starch and reducing substances. The starch-splitting properties of tubers kept at higher temps. are not as great as when stored at lower temps. The synthetic and phosphoglucomutase activities do not seem to differ. B. S. Levine |

Petrova A. N.

Studies in the enzymic synthesis of glycogen in muscles

under normal conditions and in alloxan diabetes. A. N. Petrova (Lab. Physiol. Chem., Acad. Sci. U.S.S.R., Moscow). *Biokhimiya* 19, 197-201 (1964); cf. *C.A.* 47, 755d. The enzymic synthesis of glycogen in the muscles of normal rabbits and those with alloxan diabetes proceeds in a similar manner. In both instances the synthesis differs with different tissues. In freshly ground muscle tissue and in fresh dialyzed muscle tissue exts., such synthesis appears to be absent. In washed and purified ground muscle tissue, glycogen synthesis of a low level can be detected. In the presence of isolated phosphorylase and amylo-isomerase the process of glycogen synthesis proceeds with ease and rapidity.

B. S. Levine

PETROVA, A.N.

Phosphoglucumutase of potato tubers in their aging and storage. T. T. Bolotina and A. N. Petrova. Doklady Akad. Nauk S.S.S.R. 95, 118-119 (1954) C.A. 47, 11359g. The phosphoglucumutase activity of potato tubers (measured on an ext.) drops as the tubers ripen and accumulate starch; however, the synthetic activity (in respect to starch formation) increases with ripening. The effect was most pronounced after storage of the tubers for 1 month. The phosphoglucumutase of the potato is activated by Na_2SO_4 and Al_2SO_4 . G. M. Kozlovskii

Petrova, A. N.

Preparation of synthetic glycogens. A. S. Kalnova, B. N. Buzanenko, and A. N. Petrova. *Doklady Akad. Nauk S.S.R.* 99, 1029-1030 (1954). Synthetic glycogen synthesis was accomplished by utilization of glucose-1-phosphate with the aid of phosphorylase and amylose isomerase in the presence of a small amt. of catalyst glycogen and cysteine. The best concn. of 1-glucose-1-phosphate was 0.016M, at pH 6.9-7.9 at 23°. The addn. of very small amts. of glycogen led to formation of amylopectin and amylose products; only when the added glycogen concn. reached 1 mg./ml. of the incubation mixt. did considerable amts. of glycogen-type products form (red-brown color with iodine). The results depend on a proper balance of activities of the 2 enzymes used; for best results phosphorylase of 40-60% activity should be employed with isomerase of very high activity; phosphorylase of lower activity still yields glycogen but in lower yields; high-activity phosphorylase, however, also tends to yield amylopectin-like substances. The best conditions are: per ml. mixt. use 8 mg. glucose-1-phosphate, 1 mg. glycogen, 0.125 ml. phosphorylase prepn. of 40-60% activity, 0.125 ml. isomerase prepn. of high activity; pH 6.9-7.25°. At the desired time (10-32 hrs.) the synthesis is interrupted by $\text{CCl}_3\text{CO}_2\text{H}$; the protein ppt. sep'd and the soln. dialyzed against H_2O 2-3 days and the product ppt'd with EtOH . In such an expt., after 16 hrs. 60% synthesis was attained with a product giving red-violet iodine test; in 32 hrs. the yield of synthetic activity was still 60% but the product gave red-brown iodine test. In another

technique the enzymes and sugar phosphate can be added gradually and the used enzymes are periodically removed; the latter method generally gives better results.

G. M. Kosolapoff.

Lab. Physiol. Chem. A.S. USSR

Petrova, A.A.

Med Preparation of glycogens in vitro with the aid of muscle enzymes, and a study of synthetic glycogens. B. N. Stepanenko, A. S. Kalnova, and A. N. Petrova (Acad. Sci. U.S.S.R., Moscow). *Congr. intern. biochim. Résumés communs*, 3^e Congr., Brussels 1955, 50-1 (in Russian and French); cf. *C.A.* 49: 8458c, 50: 2824c.—A series of synthetic glycogens (I) was synthesized *in vitro* from glucose-1-phosphate by the use of phosphorylase and the enzyme amylose isomerase. The mol. wts. of the I approached those of natural glycogens (II). Agglomerations of mass of about 20-fold were not accompanied by any increase of mol. wt. In their reactions with iodine, the I resembled II and differed considerably from amylopectins. Like II, the I formed complexes with myosin, demonstrated by shifts in the absorption max. in the ultraviolet. The structures and lengths of chains in I are discussed. W. C. Tobie

3

PETROVA, A. N.

The loss of utilization of glucose by liver during alloxan diabetes. A. N. Petrova (Lab. Physiol. Chem., Acad. Sci. U.S.S.R., Moscow). *Trudy Endokrinol. i Gormonoterap.*, No. 3, 70-74 (1958). — During alloxan diabetes in rabbits the liver tissue (slices or homogenates) loses to a degree the ability to utilize glucose, the mechanism of this process being directly related to lowered permeability to glucose of liver cells of diabetic animals.
J. A. Stekol

PETROVA, A. N.
USSR/Agriculture - Plant Ecology

FD-238g

Card 1/1 Pub 42-2/9

Author : Mishustin, Ye. N., Petrova, A. N., Karashchuk, I. M.

Title : The epiphyte microflora of esparsette seeds and increasing its yield.

Periodical : Izv AN SSSR Ser Biol. 2, 5-10, March-April, 1954

Abstract In addition to the usual epiphyte microflora such as Bact. herbicola, Pseudomonas etc., the Alternaria tenuis fungus, considered semiparasitic by the authors, lowers the rate of germination of esparsette, weakens its growth and decreases its yield. The effect of two fungicides, TMTDS and INUIF-2 or granozan, was investigated and granozan found to be more effective against this fungus. However, best results against Alternaria are obtained by a treatment of seeds with the fungicide Photograph; tables Nine references, all USSR (all after 1940).

Institution. Institute of Microbiology Acad Sci USSR and the Institute of Farming of the Central Chernozem Belt imeni V. V. Dokuchayev.

Submitted . November 20, 1954

PETROVA, A. N.

MD

Reducing substances of the liver, muscles, and blood in normal health and in alloxan diabetes. R. M. Bekina and A. N. Petrova (Lab. Physiol. Chem., Acad. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk SSSR* 20, 444-9 (1955).—Diabetes was produced by 180-70 mg. of alloxan/kg. of rabbit body wt. The liver and muscles of the decapitated animals were frozen in liquid air. Protein-free $\text{CCl}_3\text{CO}_2\text{H}$ filtrates were prepd. (without freezing in the case of blood). $\text{Ba}(\text{OH})_2$

was added to slight alk., and 4 vols. of 96% EtOH was added. The ppts. contg. the Ba salts of the P compds. were subjected to fractional pptn. for the sepn. of free and phosphorylated sugars. Reducing substances are higher in muscles than in liver, and low in blood. Blood and liver tissues have a high content of free sugars, principally glucose, and to a lesser extent fructose. In exptl. diabetes the content of reducing substances is increased in all the tissues tested, particularly in the blood and liver tissue. The increase of glucose in the liver points to a disturbance in the processes related to the utilization of glucose. There appears in diabetes a lack of correlation between the reduction activity of the $\text{CCl}_3\text{CO}_2\text{H}$ filtrate and the total reduction activity of the alk.-pptd. compds. It would appear as though some reducing substances of unknown nature are destroyed during the prepd. of the $\text{CCl}_3\text{CO}_2\text{H}$ fraction. The fructose content in normal animals and in exptl. diabetes is equal. B. S. Levine

(1)

PETROVA, A.N.

EXCERPTA MEDICA Sec.2 Vol.9/10 Physiology, etc. Oct56

4504. PETROVA A.N. Lab. of Physiol. Chem., Acad. of Sci., Moscow. *The Investigations of enzymatic process of glycogen metabolism in the liver in the course of alloxan diabetes (Russian text) BIOKHIMIJA 1955, 20/6 (718-724) Graphs 1 Tables 5

In normal rabbits the glycogenolysis in hepatic extracts is in equal degree phospho- and hydro(amylo-)lytic. In the course of alloxan diabetes the phospholysis increases and hydrolysis decreases, in comparison with normal values. The synthetic action of phospholase in hepatic extracts is feeble and the activity of phosphoglycomutase considerable. In the course of diabetes the activity of phosphor-ylase increases and that of phosphoglycocomutase diminishes.

Gaertner - Cracow

P. TROVA A. N.

The inhibition of the process of glucose phosphorylation by the liver in alloxan diabetes. A. N. Petrova and R. M. Beklin (Lab. Physiol. Chem., Acad. Sci. U.S.S.R., Moscow), *Biokhimiya* 21, 308-73 (1950). The results obtained with liver sections of alloxan diabetic animals indicate that the formation of hexose-6-phosphate from glucose is inhibited in exptl. diabetes. No change in the formation of phosphate esters could be observed when fructose was used as the phosphorylation substrate, thus serving as further evidence of the fact that the metabolism of fructose is disturbed to only a negligible degree, and in some instances remains entirely undisturbed. The reduced rate of adenosinetriphosphate (ATP) disappearance and the simultaneous appearance of inorg. phosphate in liver exts. in exptl. diabetes cannot be used as the basis for the assumption that a reduction in the degree of glucose phosphorylation in the liver is conditioned only by the lowering in the activity of the glucokinase. This could be the case only if the accumulation of the inorg. phosphate were the result of ATPase activity. The fact that towards the end of some of the expts, there remained a considerable quantity of unused ATP serves as evidence of the fact that even in exptl. diabetes there occurred an increase in the activity of ATPase, it nevertheless failed to interfere with the full activity of the glucokinase. Had that been the case, it might have been possible to counteract the process of glucose phosphorylation in the liver in diabetes by lowering the activity of the glucokinase. However, inorg. phosphate accumulation could take place as a consequence of the increase in the activity of glucose-6-phosphatase, which would cause a reduction in the quantity of phosphorylation of glucose. The lowering of the process of glucose phosphorylation in the liver in diabetes can be conditioned by a change in the activity not only of glucokinase, but of glucose-6-phosphatase as well.

B. S. Levine

PETROYA, A. N.

The enzymic conversion of potato starch at different stages of the tuber development. A. N. Petrova and T. T. Bolkina (Lab. Physiol. Chem. Acad. Sci. U.S.S.R., Moscow). *Biokhimiya* 21, 451-6 (1976). During the blooming period and at harvest time potato tubers were extd. by the method of B. and P. (C.A. 47, 11369g). Phosphorylation and hydrolytic activities in the exts. were detd. after 10-18 hrs. of not contg. P and free from sugars were detd. quantitatively in the non-dialyzed exts. The detns. of the synthesizing activity and of the phosphoglucomutase activity (conversion of glucos-1-phosphate to glucose 6-phosphate) were made by methods previously described (C.A. 48, 8983d). The phosphorylase fraction was pptd. with $(\text{NH}_4)_2\text{SO}_4$ using 28 g./100 ml. of the ext. at 30°; ppt. was dissolved in 0.1N citrate buffer, pH 6.5, and dialyzed for 24 hrs. against H_2O . Quant. accumulation of the starch was detd. by the enzyme conversion method. The phosphorolytic and hydrolytic activities of the tuber exts. progressively tapered down as the tuber ripened. The lowered intensity of the phosphoglucomutase activators is one of the important factors participating in the increase of the synthetic activity and in the reduction of the phosphoglucomutase activity of the aq. tuber exts. The main part of the reducing substances in the potato tuber consisted of P-free compds. As the tubers ripened and the accumulation of starch progressed the quantity of P-free reducing substances went down; at the same time the quantity of P-contg. reducing compds. was only slightly changed, if at all.

D. S. Levine

Petrova, A. N.

✓ The enzymic conversion of potato starch at different stages
of the tuber development. A. N. Petrova and T. T. Bolo-
tina. *Biochemistry (U.S.S.R.)* 21, 457-62 (1956) (English
translation).--See C.A. 51, 3754b.

PETROVA, A.N.

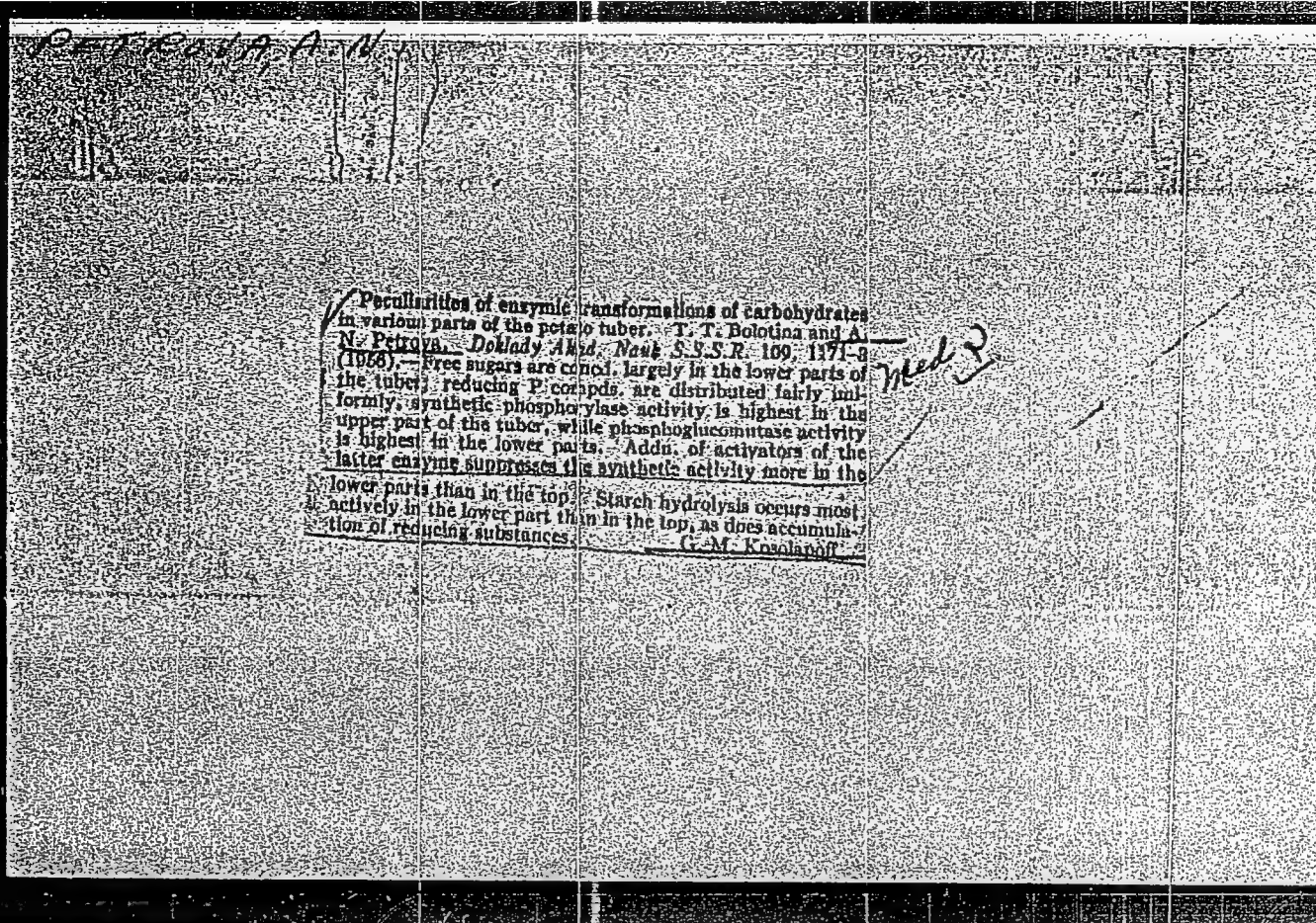
Peculiar features in the conversion of sugars in potato tubers.

Dokl. AN SSSR 109 no.5:1005-1008 Ag. 1956.

(MLRA 9:10)

1. Laboratoriya fiziologicheskoy khimii Akademii nauk SSSR. Predstavleno akademikom A.L.Kursanovym.

(POTATOES) (SUGARS)



Petrova, A. N.

✓ New data on biosynthesis of glycogen in the liver. A. N. Petrova. Doklady Akad. Nauk S.S.S.R. 111, 1054-7 (1958). Incubation of liver slices with glucose in the presence of dinitrophenol results in synthesis of glycogen, which indicates an independence of this synthesis of hexokinase activity and action of adenosine triphosphate. Liver extracts devoid of phosphorylase activity and containing very little glycogen and only traces of phosphoglucomutase activity also synthesized glycogen in incubation with glucose. Heating the extracts to 100° destroyed this ability. The maximum synthesis occurs in about 1 hr. after the start. No alteration of the content of reducing phosphate esters was observed. Thus glycogen biosynthesis in liver proceeds not only by hexokinase, phosphoglucomutase, and phosphorylase routes but also through a new and different path.

G. M. Kosolapoff

BEKINA, R.M.; PETROVA, A.N.

Methods of determining glucokinase activity in the liver [with summary in English]. Biokhimiia 22 no.4:636-643 J1-Ag '57.

(MIRA 10:11)

1. Laboratoriya fiziologicheskoy khimii AN SSSR, Moskva.

(LIVER EXTRACTS,

glucokinase, determ. by ATP reaction (Rus))

(TRANSPHOSPHORYLASES, determination,

glucokinase in liver extracts, determ. by ATP reaction (Rus))

(ADENYL PYROPHOSPHATE,

determ. of glucokinase in liver extract (Rus))

PETROVA, A.N., BEKINA, R.M. (Moscow)

Disorders of carbohydrate-phosphorus metabolism in diabetes mellitus.
Probl.endok. i gorm. 4 no.1:114-124 Ja-P'58 (MIRA 11:5)

1. Iz laboratorii fiziologicheskoy khimii AN SSSR.
(CARBOHYDRATES, metabolism,
in diabetes mellitus, review (Rus))
(PHOSPHORUS, metabolism,
same)
(DIABETES MELLITUS, metabolism,
carbohydrates & phosphorus, review (Rus))

A. N. PETROVA

"On the problem of the role of carbohydrates in the metabolism of animal and plant organisms"

The Chemistry and Metabolism of Carbohydrates in Animal and Plant Organisms.
Conference in Moscow. January 28 to January 30 1958.

EXCERPTA N. 1 Dec 2 Vol 12/1 Physiology Jan 59

38. ISOLATION OF A NEW ENZYME OF THE TRANSGLYCOSYLASE TYPE FROM LIVER (Russian text) - Petrova, A. N., Lab. of Physiol. Chem., Acad. of Sci. of the USSR, Moscow. *BIOKHIMIYA* 1958, 23(1) (99-101) Tables 6

The enzyme is able to catalyze the formation of glycogen-like substances. The enzymic reaction proceeds in the presence of α -dextrins and of free glucose and consists in an increase of the polysaccharide content and a decrease of free glucose in the incubation medium. With the rise of the number of glucose residues in one fraction of the trichloroacetic incubation medium (precipitate) their content in the other fraction (extract) decreases. The data suggest that the enzymic process in question is a transglycosylase reaction in which dextrins act as donor-substrate, and free glucose as acceptor cosubstrate.

ISAYEVA, A.L.; VOIGAREVA, N.P.; PETROVA, A.N.; TURITOVA, L.V. (Moskva)

Protracted septic endarteritis and endocarditis following surgical treatment of tetralogy of Fallot. Klin.med. 36 no.1:121-127 Jan '58.
(MIRA 11:3)

1. Iz kliniki detskikh bolezney (dir.-deystvitel'nyy chlen AMN SSSR prof. Yu.F.Dombrovskaya) i kafedry patologicheskoy anatomii (zav.-chlen-korrespondent AMN SSSR prof. A.I.Strukov) i Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova.

(TETRALOGY OF FALLOT, surg.

postop. septic endarteritis & endocarditis (Rus)

(ENDARTERITIS, in inf. & child

septic, postop. in tetralogy of Fallot surg. (Rus)

(ENDOCARDITIS, BACTERIAL, in inf. & child

postop. in tetralogy of Fallot surg. (Rus)

PETROVA, A.N.

~~Isolating~~ transglycosidase from the liver and determining its activity.
Biokhimiia 24 no.2:228-233 Mr-Apr '59. (MIRA 12:7)

1. Laboratory of Physiological Chemistry, Academy of Sciences of the
U.S.S.R., Moscow.

(LIVER, metab.

transglucosylase, determ. (Rus))

(TRANSFERASES,

transglucosylase in liver, determ. (Rus))

RE: [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

1. The first part of the report, p. 1.

2. The second part of the report, p. 2. The first part of the report, p. 1. The second part of the report, p. 2. The third part of the report, p. 3. The fourth part of the report, p. 4. The fifth part of the report, p. 5. The sixth part of the report, p. 6. The seventh part of the report, p. 7. The eighth part of the report, p. 8. The ninth part of the report, p. 9. The tenth part of the report, p. 10. The eleventh part of the report, p. 11. The twelfth part of the report, p. 12. The thirteenth part of the report, p. 13. The fourteenth part of the report, p. 14. The fifteenth part of the report, p. 15. The sixteenth part of the report, p. 16. The seventeenth part of the report, p. 17. The eighteenth part of the report, p. 18. The nineteenth part of the report, p. 19. The twentieth part of the report, p. 20. The twenty-first part of the report, p. 21. The twenty-second part of the report, p. 22. The twenty-third part of the report, p. 23. The twenty-fourth part of the report, p. 24. The twenty-fifth part of the report, p. 25. The twenty-sixth part of the report, p. 26. The twenty-seventh part of the report, p. 27. The twenty-eighth part of the report, p. 28. The twenty-ninth part of the report, p. 29. The thirtieth part of the report, p. 30. The thirty-first part of the report, p. 31. The thirty-second part of the report, p. 32. The thirty-third part of the report, p. 33. The thirty-fourth part of the report, p. 34. The thirty-fifth part of the report, p. 35. The thirty-sixth part of the report, p. 36. The thirty-seventh part of the report, p. 37. The thirty-eighth part of the report, p. 38. The thirty-ninth part of the report, p. 39. The fortieth part of the report, p. 40. The forty-first part of the report, p. 41. The forty-second part of the report, p. 42. The forty-third part of the report, p. 43. The forty-fourth part of the report, p. 44. The forty-fifth part of the report, p. 45. The forty-sixth part of the report, p. 46. The forty-seventh part of the report, p. 47. The forty-eighth part of the report, p. 48. The forty-ninth part of the report, p. 49. The fiftieth part of the report, p. 50. The fifty-first part of the report, p. 51. The fifty-second part of the report, p. 52. The fifty-third part of the report, p. 53. The fifty-fourth part of the report, p. 54. The fifty-fifth part of the report, p. 55. The fifty-sixth part of the report, p. 56. The fifty-seventh part of the report, p. 57. The fifty-eighth part of the report, p. 58. The fifty-ninth part of the report, p. 59. The sixtieth part of the report, p. 60. The sixty-first part of the report, p. 61. The sixty-second part of the report, p. 62. The sixty-third part of the report, p. 63. The sixty-fourth part of the report, p. 64. The sixty-fifth part of the report, p. 65. The sixty-sixth part of the report, p. 66. The sixty-seventh part of the report, p. 67. The sixty-eighth part of the report, p. 68. The sixty-ninth part of the report, p. 69. The seventieth part of the report, p. 70. The seventy-first part of the report, p. 71. The seventy-second part of the report, p. 72. The seventy-third part of the report, p. 73. The seventy-fourth part of the report, p. 74. The seventy-fifth part of the report, p. 75. The seventy-sixth part of the report, p. 76. The seventy-seventh part of the report, p. 77. The seventy-eighth part of the report, p. 78. The seventy-ninth part of the report, p. 79. The eightieth part of the report, p. 80. The eighty-first part of the report, p. 81. The eighty-second part of the report, p. 82. The eighty-third part of the report, p. 83. The eighty-fourth part of the report, p. 84. The eighty-fifth part of the report, p. 85. The eighty-sixth part of the report, p. 86. The eighty-seventh part of the report, p. 87. The eighty-eighth part of the report, p. 88. The eighty-ninth part of the report, p. 89. The ninetieth part of the report, p. 90. The ninety-first part of the report, p. 91. The ninety-second part of the report, p. 92. The ninety-third part of the report, p. 93. The ninety-fourth part of the report, p. 94. The ninety-fifth part of the report, p. 95. The ninety-sixth part of the report, p. 96. The ninety-seventh part of the report, p. 97. The ninety-eighth part of the report, p. 98. The ninety-ninth part of the report, p. 99. The hundredth part of the report, p. 100.

PETROVA, Antonina Nikolayevna

[Safety manual for the use of
Pamiatka po tekhn. i bezopasnosti
stavshchika kiry: ...

ter and drawer
sadchika i vy-
at, 1966. 22 p.
(MIRA 18:6)

ACCESSION NR: AR4015704

S/0081/63/000/023/0602/0602

SOURCE: RZh. Khimiya, Abs 23T324

AUTHOR: Avgustov, Yu. A.; Petrova, A. N.

TITLE: Coating of metals with plastics

CITED SOURCE: Tr. Vses. nauch. i konstrukt. in-t khim. mashinostr., vy*p. 42, 1962, 88-93

TOPIC TAGS: metal coating, corrosion prevention, plastic, plastic coating, vinyl plastic, polyvinylchloride, polymer, polyethylene

TRANSLATION: To obtain a coating on a thin metal sheet of steel or cast iron, a film of vinyl plastic, a paste of polyvinylchloride and powdered polyethylene are used. Before applying the coating, the metal sheet is sandblasted and cleaned with compressed air. An improvement in the technique of application of vinyl plastic films having a thickness of 0.4-0.5 and 0.7-0.9 mm has been developed which shortens the length of the process by a factor of 10. A film of adhesive (13-16% solution of vinyl perchloride in dichloroethane) is applied twice to the cleaned vinyl plastic surface, dried 3-5 minutes in the air and heated for 2-3 second at 175-180C. Simultaneously, the metal sheet is subjected to an analogous procedure.

Card 1/2

ACCESSION NR: AR4015704

but the length of heating is prolonged to 1-5-2 min. and the application of the adhesive is repeated 3 times. The heated vinyl plastic is then applied to the metal sheet situated on a hotplate at 60-70°C, and rolled with a steel roller under a pressure of 1 kg/cm² for 10-15 sec. The adhesive force, tested on a 500 N rupture strength machine (samples were in the form of "fish-tail" shape), was 67 kg/cm². During application of polyvinyl chloride paste stabilization and stabilization of the metal sheet is required, as well as stabilization of an intermediate adhesive layer (the best adhesives are ED-10, P-1 and P-2) and polyethylene to the metal sheet to improve the adhesion. The technique of protecting metal sheets with a layer of polyvinyl chloride is as follows: preparation of the metal surface, two applications of the adhesive film, and after 2-5 min. in the air, drying in an oven for 3-4 min. at 150-190°C. Application of polyvinyl chloride paste to the metal surface is accomplished by immersion of a cleaned metal sheet, heated to 300-350°C, with polyethylene powder for 25-30 sec. followed by heating for 5-10 min. at 190-200°C and cooling in air to 20°C. It was established that the applied polyethylene at 200°C for 5 min. and cooling at 20°C. It was established that the chemically most stable coating is one of vinyl plastic, but that the most technological coating, having the best physico-mechanical properties, is one based on polyvinylchloride paste. L. Kotlyarevskaya.

DATE ACQ: 09Jan64

Card 2/2

SUB CODE: MM, MT

ENCL: 00

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Transferases catalyzing the glycosol group transfer. Jsp. bio. (MIRA 17:3)
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MISHUSTIN, Ye.N.; PETROVA, A.N.

Determination of the biological activity of soils. Mikrobiologiya 32 no.3:479-483 My-Je'63 (MIRA 17:3)

1. Institut mikrobiologii AN SSSR.

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Т.Н., техн. ред.

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glazurnykh keramicheskikh i fayansovykh
izdelii. Moskva, Gosstizdat, 1986. 120 s.
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Participation of adenosinetriphosphoric acid in transport
reactions of glycosyl groups. Dokl.AN SSSR 148 no.4:949-951
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1. Institut biokhimii im. A.N.Bakha AN SSSR. Predstavleno
akademikom A.I.Oparinym.
(Adenosinetriphosphoric acid) (Dextrin) (Chemical reactions)

PETROVA, A. N. (Moskva); BOLOTINA, T. T. (Moskva)

Enzymatic transformations of starch and the products of its
decomposition in potatoes tubers. Usp. biol. khim. 4:233-247
'62. (MIRA 15:7)

(STARCH) (POTATOES) (ENZYMES)

PETROVA, A.N.

New enzyme preparation. Vest. AN SSSR 32 no.3:35-36 Mr '62.
(MIRA 15:2,
(Amylose isomerase)

RETROVA, A.N.; BOLOTINA, T.T.; KOZEVA, A.A.

Study of the active forms of amylose isomerase. *Biochimica*
26 no.6:1041-1007 N-L '61. *UKRA* 15:6,

1. Institute of Biochemistry, Academy of Sciences of the
U.S.S.R.

(AMYLOSES)